

WU - ① Find the equation for inverse variation if $x=7$ when $y=21$. Then, find y if $x=4$.

② Do the following pts represent inverse variation.

x	.5	1	2	3	4
y	24	12	6	4	3

WU - ① Find the equation for
inverse variation if $x=7$
when $y=21$. Then, find y
if $x=4$.

$$y = \frac{k}{x}$$

$$k = x \cdot y$$

$$k = 7 \cdot 21$$

$$= 147$$

$$y = \frac{147}{x}$$

$$y = \frac{147}{4} = 36.75$$

② Do the following pts represent inverse variation.

x	.5	1	2	3	4
y	24	12	6	4	3

$$K = x \cdot y$$

12 12 12 12 12

yes
this
is
inverse

3-10

12-15

20-21

24-26

P 555

24

$$x, y, z$$

$$z = kxy$$

$$x = 2$$

$$y = -6$$

$$z = 24$$

$$24 = k \cdot (2) \cdot (-6)$$

$$\frac{24}{-12} = \frac{-12 \cdot k}{-12}$$

$$k = -2$$

$$z = -2xy$$

$$x = -4 \quad y = 5$$

$$z = -2(-4)(5)$$

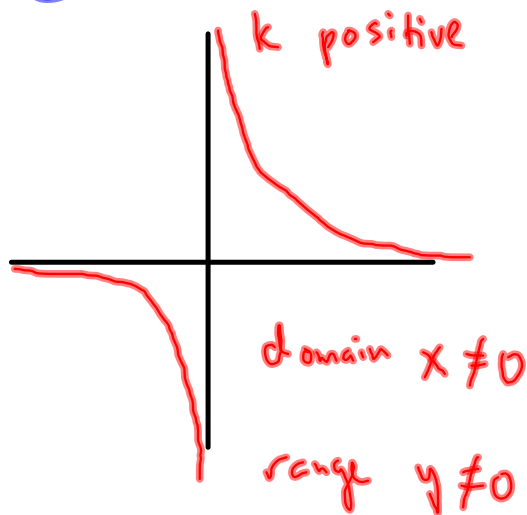
$$z = 40$$

a varies with b, c, and d

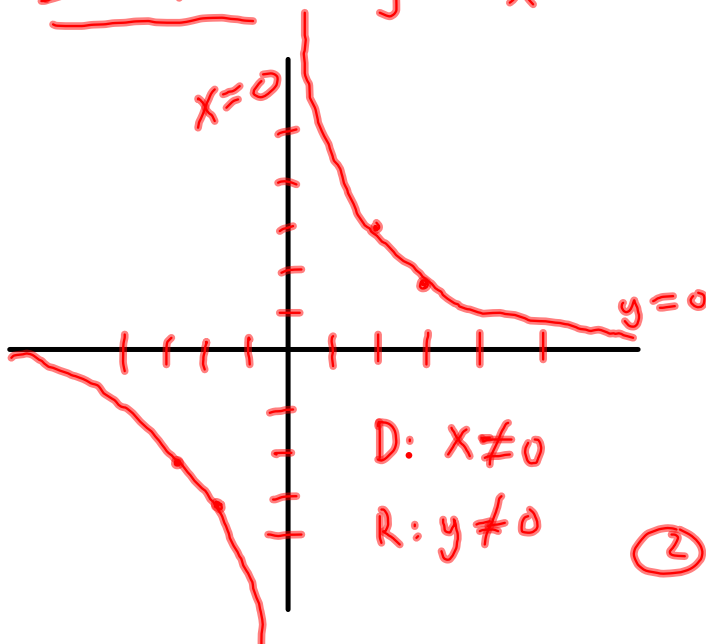
$$a = \underset{\substack{\uparrow \\ \text{constant}}}{m} b \cdot c \cdot d$$

Graph Rational Functions

① Inverse Function $y = \frac{k}{x}$



Example $y = \frac{6}{x}$ ① plot 4 points positive & negative



x	y
-6	-1
-3	-2
-2	-3
-1	-6
1	6
2	3
3	2
6	1

② Draw asymptotes towards $x=0$ and $y=0$

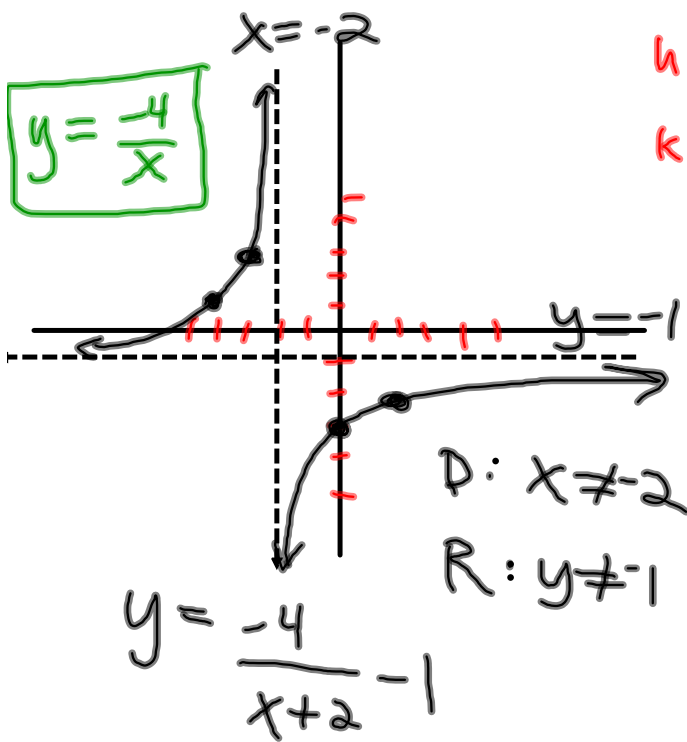
② $y = \frac{a}{x-h} + k$ } move h in the x direction
 k in the y direction

$$y = \frac{-4}{x+2} - 1$$

① Identify h, k

$h = -2$ vertical asymptote

$k = -1$ horizontal asymptote



② pick x -values near asymptote to plot

x	y
2	$\frac{-4}{2+2} - 1 = -2$
0	$\frac{-4}{0+2} - 1 = -3$
-4	$\frac{-4}{-4+2} - 1 = 1$
-3	$\frac{-4}{-3+2} - 1 = 3$